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tinues to decrease. The weather conditions are the same as the previous week and continue cloudy. The usual mortality table is inclosed.

Respectfully,

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The SURGEON-GENERAL,  
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[Inclosure.]

*Mortality table for the week ended November 4, 1899.*

Diseases.	October—			November—				Total.
	29	30	31	(a) 1	2	3	4	
Tuberculosis.....	2	1	1	.....	5	4	1	.....
Enteritis.....	2	.....	.....	.....	1	1	.....	.....
Yellow fever.....	2	.....	1	.....	.....	.....	.....	.....
Pernicious.....	1	.....	1	.....	.....	.....	.....	.....
Malarial.....	1	.....	.....	.....	.....	.....	.....	.....
Enteric.....	.....	2	.....	.....	.....	1	2	.....
Pneumonia.....	.....	.....	2	.....	1	1	2	.....
Total deaths from all causes.....	17	12	11	9	13	19	10	91

*a* No death from infectious or contagious disease.

Three deaths from yellow fever—2 at Las Animas hospital; the third death occurred at 5 Dragones street.

#### FRANCE.

#### *Treatment of tuberculosis by injections into the trachea.*

[Advance sheets of consular reports, November 7, 1899.]

#### NEW TREATMENT FOR TUBERCULOSIS.

Consul Atwell, of Roubaix, under date of October 7, 1899, says :

In my report of June 26, 1899 (*a*), I spoke of Dr. Mendel's treatment of tubercular diseases, which called forth so many inquiries that Dr. Mendel has forwarded to this consulate an article on the subject contributed by him on September 9, 1899, to the *Journal des Praticiens*. I inclose herewith translation of the article, which contains specific information with regard to his treatment, as called for in Department instructions of August 10, 1899 (*b*).

The article reads :

#### TREATMENT OF BRONCHIAL AND PULMONARY DISEASES AND PARTICULARLY OF TUBERCULOSIS BY INJECTION OF ESSENTIAL OILS INTO THE TRACHEAL DUCT.

The introduction of medicine into the tracheal duct was not practiced, we believe, prior to 1883, when Bergeon lectured before the congress for the advancement of science on injections of calming matter into the tracheal duct by means of the Pravaz syringe. This physician made 25 injections in thirty-five days with most satisfactory results. Although the idea was good, the manner of injecting through incisions in the skin of the neck was not acceptable, and the treatment found little favor.

In 1888, Beechag conceived the idea of injecting a few drops of oil of peppermint into the larynx. This injection was made by the aid of a mirror; the liquid found its way into the tracheal duct and produced a sedative effect. The problem of tracheal injections through the mouth was solved. The treatment was then followed systematically

*a* Advance Sheets No. 493 (August 3, 1899); Consular Reports No. 228 (September, 1899).

*b* Sent at the request of a resident of Texas, to whom Advance Sheets of this report have been transmitted.

by Drs. Dor, Garel, Botey, Jarrige, and others, who used oil of creosote and oil of peppermint in cases of pulmonary tuberculosis.

The results were encouraging, but it seems that oil of creosote injected into the tracheal duct has no greater effect than when injected under the skin. It is for this reason that I have abandoned the injection of oil of creosote and have carried my experiments into a comparatively new field; I allude to essential oils.

The Freudenreich experiment is known. This physician placed germs of tuberculosis in glass jars containing 20 drops of essence. He then corked the jars with rubber stoppers and studied them for a period of twenty days. He observed that the germs of tuberculosis were arrested in process of growth or even destroyed by essence of wintergreen, rosemary, peppermint, marjoram, thyme, geranium, lavender, lingwort, and eucalyptus.

The problem was to choose between these 10 oils. I selected oil of thyme, whose antiseptic value is equal to that of carbolic acid; oil of cinnamon, which is considered tonic and stimulating, and oil of eucalyptus, which seems to have a special action on the mucus of the bronchial and pulmonary organs.

After experimenting upon dogs, I decided upon the following solution:

Essence of thyme.....	grams...	5
Essence of eucalyptus.....	do.....	5
Essence of cinnamon.....	do.....	5
Sterilized olive oil.....	cubic centimeters...	100
To this solution may be added iodoform.....	grams...	5
Bromoform .....	do.....	0.05

In treating certain cases this proportion may be doubled, or even trebled.

The tracheal injection is practiced daily, and for this purpose I use a long, curved syringe invented by Collin. The syringe contains 3 cubic centimeters of the solution. I empty it three or four times consecutively into the tracheal duct. The patient, who feels the solution trickling into his lungs, experiences an agreeable sensation of warmth, and does not cough.

In my early experiments I operated with a throat mirror, but I am now able to do without this aid. The patient holds his tongue outside of his mouth between thumb and finger by means of a napkin. The tube is then inserted behind the tongue and the syringe held in a vertical position and the piston pressed. If the whole solution is successfully injected into the tracheal duct, the patient experiences the feeling of warmth spoken of above. If, on the contrary, a portion has been spilled on the epiglottis and in the mouth of the larynx, a certain quantity returns to the mouth and he spits it out; but I affirm that he does not cough.

This treatment is simple and inoffensive.

I will now state the results that I have obtained. I have up to the present time treated 27 cases of tuberculosis, of which 18 were in the first stage of the disease, 4 in the second, and 3 in the third; and in each case I have obtained some result.

*Tuberculosis in the first degree* is known by the following symptoms: The patient coughs and loses flesh during several months; strength fails and the appetite is irregular or fails altogether; the cough is often frequent and prevents sleep; expectoration is more or less abundant, of yellowish or greenish hue, and does not necessarily contain bacilli.

Stethoscopic examination reveals a deadening of the sound on one or both sides of the upper lungs; auscultation reveals slower or panting respiration, prolonged or fitful exhalation, and a slight cracking sound.

With this class of patients, after a treatment varying in period from eight days to a month, I have succeeded in relieving the cough and expectoration and even stopping them altogether. Strength, sleep, and appetite have also returned. The treatment is slower in some cases than others, but it is always effective.

At the end of the treatment, I have sometimes noted the disappearance of the cracking sound; but in general the stethoscopic characteristics remain unchanged.

These eighteen patients in the first stage of tuberculosis have not been treated by me for three months, and continue in good condition.

*Tuberculosis in the second degree (period of softening of the lung tissues).*—Three out of four patients have found relief, though in a lesser degree than my patients in the first stage of the disease. I have not been able to stop the cough and expectoration completely, though I have relieved them greatly, and appetite and strength have returned.

The stethoscopic characteristics have also been modified. The rattling has decreased at least one-half or three-fourths, and the aching in the throat has disappeared.

The fourth patient, a girl of 12, first experienced much benefit, but at the end of three weeks the malady reappeared in full force. She is still under treatment.

*Tuberculosis in the third degree.*—I have treated three patients of this class. The first, a woman of 30 years, with a cavity in upper left lung, general health bad, cough and

expectoration incessant, no appetite, very weak. The injections rapidly changed the condition of the patient. At the end of two weeks the cavity had dried and the cough and expectorations had decreased two-thirds. She has good appetite now, no longer vomits when seized with a fit of coughing, sleeps well, and thinks herself cured.

The second patient is still under treatment, which has lasted three weeks; appetite and strength have returned, cough and expectoration have diminished one-half.

The third patient, 29 years of age, was confined to his bed and in a most precarious condition. Large cavity in upper right lung, high fever, no appetite, bad diarrhea, extreme emaciation.

The treatment revived him, however; after a few days the appetite returned, diarrhea ceased, cough diminished a little, expectoration was easier and unaccompanied by vomiting. Nevertheless, the disease continued, and after a month the patient died.

This, then, is a statement of the result obtained thus far through the treatment by injection of essential oils. It is rapid and usually effective.

In order not to lengthen this article, I will simply mention that it has an excellent effect in the treatment of simple affections of the bronchial organs, etc.

It now remains for me to explain the action of this treatment. The medicated oil, injected into the orifice of the tracheal duct, descends slowly, bathing the walls. It thus penetrates the upper bronchial tubes, creating a large surface of evaporation at the point where the bronchial tubes branch out. Before the oil is absorbed the air entering the lungs is saturated with volatile odors that destroy the bacteria. There is intense inhalation in the center of the respiratory organs, which is far more effective than any ordinary inhalation. The oil and medicine are thus absorbed by the lungs, diffused through the system, and finally carried off through the lungs and urine.

We thus obtain the disinfection of the mucus of the lungs by the aid of the air, which acts as a vehicle for the medicine. This explains the decrease of cough and expectoration, the drying of the tubes, and general better health, by reason of the fact that the lungs cease to absorb the poisonous gases within them. If the characteristics of the disease in the early stage, such as shortness of breath and panting exhalation, do not lessen, it is because the lesions are situated beyond the reach of the channels of respiration.

In certain cases, where the tracheal injection could not be performed daily, we have substituted a medicated injection composed of a glass of milk, the yolk of an egg, and from 10 drops to 1 or 2 coffee-spoonfuls of the solution mentioned above. We have had excellent results from this treatment. The volatile oils pass off largely through the lungs and perfume the breath of the patient for several hours.

#### INDIA.

#### *Plague in Bombay—Haffkine serum.*

[Advance sheets of consular reports, November 8, 1899.]

BOMBAY, September 7, 1899.

The plague in the Bombay Presidency continues. It had its inception in the latter part of the year 1896, and has spread into every collectorate and district of the presidency. From statements showing the mortality from plague furnished me by the government of India, I find there were, during the week ended September 3, 1899, 4,390 deaths from plague in the presidency of Bombay.

Its progress in the southern Maratha country during the past year has been remarkable. It has assumed an epidemic form in the city of Poona, a place of over 100,000 inhabitants, which, on account of its supposed sanitary condition—high elevation, dry heat, with a climate from May to November like an English spring morning—has been made the home for the Bombay army and the residence of the governor during the monsoon season.

This city has had 23,331 cases and 17,809 deaths from plague up to the present time. The epidemic is just at present at its height, and there is great suffering and distress. During the week ended September 2, 1899, there were 1,086 deaths from plague, and on Monday, September 4, 1899, 117 cases and 110 deaths were reported in that city.